

Mapping the History of the Distribution of the Cave Swallow

Learner Outcomes

The learner will

- Map the spread of cave swallows into the United States using a variety of historic references.
- Map the winter distribution of cave swallows in the Caribbean Basin and Texas using recent data.
- Interpret various reference materials.

Background

Cave swallows first appeared in the United States as an accidental species in the Florida Keys in 1890. The first birds were recorded in Texas in 1910 and first nested there in 1914. The first verified record and report of nesting in New Mexico was in 1930. While birds continued to appear rarely in Florida, nesting individuals first established themselves in south Florida in 1987 and have persisted as a nesting species since that time. One or two individuals occurred at a cliff swallow (*Petrochelidon pyrrhonota*) colony in Tucson, Arizona, from 1979 to 1987, but have not been reported since that time.

Birds (usually singles) have occurred as accidentals in the following states: Alabama, California, Louisiana, Mississippi, New Jersey, New York and North Carolina. Two Canadian provinces, Nova Scotia and Ontario have records of this species. In the Caribbean Basin, birds have been judged accidental in the Bahamas, Barbados, Cayman Islands, Curacao, St. Lucia and the Virgin Islands. There are recent records of large numbers of birds wintering in coastal areas in El Salvador. Many unverified reports exist including, but not limited to, Guatemala, Nebraska and Venezuela.

Winter distribution of the species was formerly limited to Mexico and the West Indies. Since the mid-1980s, a small portion of the Texas population (up to several hundred individuals) have wintered in parts of Texas.

Materials

- Supplement number 4.6
- State maps showing counties of the following states: Arizona, Florida, New Mexico and Texas
- Diverse samples of journal articles detailing the records of the early occurrence of cave swallows in the states mentioned and other references that reported on status changes
- Atlas to determine county names to determine exact location from journal articles
- Outline map of the Caribbean Basin showing at least the following: Cuba, Dominican Republic, Mexico, Puerto Rico and Texas

- General atlas which includes Caribbean Basin and Texas – must show latitude and longitude
- Most recent issue of the Christmas count issue of *American Birds*

Assessments

- Maps

Activity #1

Researching Historical Distribution in the USA

2 class periods

Procedure

The teacher will

- Discuss supplement number 4.6 with students, and spell out all other guidelines.
- Provide students with journal articles, noting reporting locations of cave swallow occurrences.
- Have students locate sites and note the dates on maps of New Mexico, Arizona, Texas and Florida.
- Have students draw lines showing the northward spread of the species in 20-year increments.
- Have students prepare a map showing the first nesting record. (May wish to have students indicate the first record in each of the provinces and states.)
- Have students speculate as to which environmental changes have helped to facilitate this northward expansion.

Activity #2

Winter Range

3 class periods

Procedure

The teacher will

- Review the Christmas count bird surveys with students for the following areas: Cuba, Haiti, Dominican Republic, El Salvador, Guatemala, Jamaica, Mexico, Puerto Rico, Texas and the Virgin Islands.
- Instruct students to prepare a map showing the number of cave swallows per party-hour found on each count in which the species were found. Cave swallows found on count day will be noted along with party-hours and the location of the count center by longitude and latitude. All Christmas count circles in the above political units will be noted on maps. Counts with cave swallows will be marked differently along with a scale showing the relative abundance.

Special Note

Christmas counts do not occur in all of the above areas each year. Counts, however, do take place on an annual basis in Mexico, Puerto Rico, Texas and the Virgin Islands and usually at least two of the other political entities.